conditions for the propagation of cholera, and for the occurrence of epidemics of the disease, are human intercourse, and a certain nature of the locality; or, in other words, the excretions of cholera patients to give the germ, and a soil for its development." The details of this theory are no doubt familiar to our readers as they were published in the *Medical News* for March, 1866, p. 40 *et seq*., and we need not therefore dwell further on the subject.

An account of the "*Epidemic Varioloid Varicella* in Jamaica" is given by Dr. J. Anderson. It is of a strictly local character. It has some bearing, however, upon the question as to the relation, if any, which exists between varicella and the varioloid disease.

H. Hadlow, Acting Surgeon, gives an account of "an outbreak of *Dysentery* in H. M. Ship Conqueror," in the summer of 1864. It presents no points of especial interest.

The next paper is on "the theory and mode of *Propagation of Cholera*, by Dr. B. W. Richardson.

The views of Dr. R., on the cause and propagation of cholera, need not be presented, as they were laid before our readers in the No. of the *Medical News* for Sept. 1866, p. 156 *et seq*.

A very instructive paper is presented by Dr. W. Dickson, R. N., "on *Scurvy in the mercantile marine*." It adds, however, but little to our present knowledge of the cause and prevention of scurvy on shipboard.

In the next paper Dr. J. B. Sanderson treats of "*the Cattle plague* in its epidemiological aspects." This paper will be read with interest and profit by all who are interested in the investigation of the cause and propagation of the cattle plague with a view to the establishment of a true basis for prophylaxis.

Besides the papers we have noticed, the volume before us contains three presidential addresses, and a very neat biographical sketch of the late Dr. Benjamin G. Babington.

The appendices are made up of the Report of the Smallpox and Vaccination Committee (April, 1864). Report on the Questions submitted by Dr. Farr to the Council, concerning the Classification of Diseases (Feb. 1865). Report of the Council on Cholera Hospitals (July, 1866). Memorials concerning Cholera to the Privy Council, etc. (September, 1865). D. F. C.

ART. XX.—*Report on Leprosy by the Royal College of Physicians. Prepared for Her Majesty's Secretary of State for the Colonies. With an Appendix.* 4to. pp. 244. London: 1867.

THIS highly interesting report is based upon the replies made by competent persons, in the British Colonies of the West Indies and elsewhere, to queries propounded by the College at the request of the Colonial Secretary. The queries were seventeen in number. The leading points to which they have reference will be understood by the following abstract of the conclusions on the subject-matter of each, drawn up by a committee of the College from an examination of the entire evidence comprised in the answers received.

1. The distinctive characters of leprosy are the same in all parts of the world where the disease has appeared. They are certain forms of cutaneous eruption and discoloration, with a tendency to ulceration or to death of the affected parts, with disorders of innervation, more particularly the impairment or loss of sensibility.

There are described two forms of the disease, the *tuberculated* and the *anæsthetic*. The loss of sensibility is not confined to the second form, but in it the anæsthesia generally occurs earlier, and is more marked, than in the first. As the two forms not unfrequently coexist, or succeed one another in the same patient, they must be regarded as merely modifications of one morbid condition.

As varieties of non-tuberculated leprosy are included cases sometimes designated as *leucopathic*—characterized by white spots or blotches on the skin, which are more or less decidedly anæsthetic; also cases in which the eruption is in circular or annular spots, similar to that of *lepra vulgaris*, but in which the centre of the spots is anæsthetic, while other distinctive marks of leprosy are present. The term "leprous" is often applied to various chronic maladies of the skin occurring in unhealthy persons, who are badly nourished, and neglectful of cleanliness, but which cannot be regarded as true leprosy. Elephantoid enlargement of the lower extremities is, in some places, considered as allied to leprosy. The two diseases would appear to have, however, no real affinity with each other, although both are sometimes endemic in the same countries, and occasionally coexist in the same patient.

2. The development of leprosy appears to take place most frequently about puberty, and from that period of life to maturity; but it has been observed in infancy and early childhood, and to fifty years and upwards. Rarely have signs of it been seen in the children of lepers at or soon after birth. The tuberculated form is said to generally manifest itself somewhat more early in life than the non-tuberculated.

Arrest of development, and various forms of congenital deformity, are said to be the occasional results of a hereditary tendency to leprosy.

The external symptoms of leprosy are often preceded by a sense of malaise—recurrent, ague-like chills, occasional feverishness, a sense of internal heat; pains, or creeping, pricking sensations, or formication and itching of the limbs; numbness of a hand or foot, or in one or more of the fingers or toes; general weakness and depression of both mind and body. In certain cases, especially of the non-tuberculated form, there is in the early stage an intense burning sensation, and a painful tingling along the course of one or more of the nerves of a limb, increased by pinching the skin or tapping over the affected part. It is sometimes accompanied by a dry, fissured state of the skin, falling off of the hair, and shrivelling of the nails.

Before the appearance of the characteristic cutaneous tubera or nodules of the tuberculated form, there not unfrequently occurs an erythematous redness, most generally of the face, attended with a feeling of heat or burning—a puffiness of the features, and increased sensibility of the skin, which latter symptom is invariably replaced, sooner or later, by anæsthesia of the affected parts. Excessive perspiration of the hands, when present, is an evidence of the leprous diathesis, if not of the actual disease.

3. Taking the disease as a whole, when not extensive, it may continue for twenty years or more; but from five to fifteen years may be set down as its most usual duration. The non-tuberculated form is most usually the slowest in its progress. In both forms, however, it may remain stationary for years, life being occasionally prolonged to old age. Death is generally the result of some intercurrent disease; in malarial districts, especially of intermittent or remittent fever. In some cases the patient sinks from general marasmus and atrophy. Children of leprous persons are observed to be less amenable to medical treatment than the children of other parents when sick, of the same age and condition.

4. It has been supposed that leprosy occurs most frequently in males. In some leper asylums in the West Indies the number of the two sexes received is about equal; while several observers are of opinion that the disease is equally common among females as among males; a few, again, state that it is most common among the former.

5. In hot climates leprosy appears to be much more frequent among the dark than among the white population. Most of the cases among the latter occur, it is said, in such as are born in the country, or have long resided in districts where the disease is endemic.

6. In all countries the disease prevails chiefly among the most debased and poorest of the people; the better conditioned classes are, however, not exempt from it.

Leprosy appears to prevail chiefly in low malarial districts, especially on or near the sea-shore; but it is by no means confined to such localities. Lepers are more frequently to be met with in towns than in rural districts. The dwellings of the classes amid which leprosy is most prevalent, are everywhere of a character the most miserable, filthy, and unwholesome. The personal uncleanness of lepers is on a par with that of their abodes. Their food is very generally poor, unnutritious, and otherwise unwholesome—badly cooked, also, and often quite insufficient in quantity.

7. All observers agree that an unwholesome and insufficient diet, exposure to atmospheric vicissitudes without sufficient clothing—residence in foul, damp dwellings, improper diet, and the want of personal cleanliness, serve to aggravate the disease and accelerate its progress; while, on the other hand, it is greatly retarded and mitigated by more favourable hygienic conditions. Intemperance, sexual excesses, the depressing passions—in short, whatever tends to lower the vital energies, and to impoverish or deteriorate the blood, are always hurtful. Among other circumstances said to aggravate the disease, is included the incautious use of mercury, which has often been employed in its treatment.

8. It is almost universally conceded, that leprosy is often hereditary; it nevertheless frequently occurs in those in whom no hereditary tendency can be traced. The disease is stated not unfrequently to pass over one generation, and to reappear in the next.

9. Leprosy is very generally considered to be a disease *sui generis*, quite independent of, and unconnected with any other disease. The facts given in support of this position are seemingly conclusive.

10. The all but unanimous conviction of the most experienced observers in different parts of the world is in direct opposition to the belief that leprosy is contagious or communicable by the closest proximity or contact with the diseased.

11. Of course, seggregation of the leprous is not necessary to prevent the spread of the disease. Properly constructed and located asylums, however, in which lepers could be received and placed under favourable hygienic conditions, will be probably the only certain means for effecting their cure.

12. The public provision for the cure and treatment of the leprous poor, where the disease prevails, is almost invariably scanty and insufficient.

13. As to the number of leprous persons maintained at public expense, no positive information has been received. The statements given are too few and imperfect to afford any criterion of the extent to which the disease exists among the poorer classes of the several communities heard from.

14. In respect to the question whether leprosy has of late years increased or decreased in its several habitats, no accurate conclusion can be arrived at, from the want of trustworthy statistical data.

15. It is admitted on all hands that in the treatment of leprosy the best effects have been derived from the adoption of hygienic measures; that medicinal treatment is of no avail in retarding or arresting the disease, unless combined with a nourishing, unstimulating diet, suitable clothing, protection against atmospherical vicissitudes, personal cleanliness, and exercise in the open air.

The medicines which have been found most useful are tonics and alteratives; of these, the preparations of iron and of iodine are the best. Arsenic, recommended by some, is of more doubtful utility. The oil of the *chaulmoogra* and cod-liver oil are said to have been given with advantage—as also sarsaparilla, mudar (*calotropis*), and other reputed vegetable alterants. Mercury is of very doubtful propriety.

The systematic use of baths—simple, saline, or sulphuretted, appear to be decidedly beneficial. Counter-irritation over the spine by the actual cautery has proved useful, it is said, in diminishing the anæsthetic symptoms.

The evidence is all but unanimous that leprosy very rarely, if ever, manifests any tendency to a spontaneous cure. When fully developed, a complete recovery is not to be looked for.

16. This query relates to the census of the West India Islands subject to the occurrence of leprosy. The answers given to it are far, however, from being complete or satisfactory.

17. The reports of post-mortem examinations made by Dr. Carter of Bombay, of leprous patients, are of considerable interest. They tend to confirm the general accuracy of the researches of Drs. Danielssen and Boeck in respect to the morbid anatomy of the disease. These gentlemen were the first to investigate this field of pathological inquiry. The following is a brief summary of the

principal morbid changes which they detected in the numerous dissections of leprous patients made by them in the hospital at Bergen.

Tubercular form.—In the developed stage, the cutis vera of affected parts tumefied and thickened. When squeezed between the fingers a yellowish white, viscid or gristly fluid exudes. Subcutaneons cellular tissue, infiltrated with a gelatinous or lardaceous effusion, firmly adherent to corion. Subcutaneous veins and nerves thickened and enlarged from the same effusion on their outer surface. In the advanced stage both the deep-seated and superficial nerves, especially in the neighbourhood of ulcerations, very much thickened and enlarged, in consequence of inflammation of their sheaths. Mucous membrane of nares, fauces, and larynx swollen, occupied with tubercles, soft, yellowish in colour, and often ulcerated. The opening of larynx frequently the seat of morbid deposit, nearly closing up, sometimes, the *rima glottidis.* Tubercles occasionally occur on mucous lining of trachea and larger bronchi. Cervical glands, in some cases, much enlarged. Substance of lungs seldom altered; pleura often much thickened from tuberculous deposits in its cellular tissue. A similar condition may occur in the subperitoneal cellular tissue. On the inner surface of intestines, isolated, rounded ulcers are occasionally present. Mesenteric glands generally more or less enlarged. Liver sometimes the seat of tubercles. In the advanced stage of the disease kidneys almost always more or less seriously affected, usually with the results of albuminous nephritis present. Within the cerebral and spinal cavities no distinct or uniform morbid changes are detected.

Asthenic form.—When completely developed, with decided paralysis of muscles and skin, the latter is often much attenuated—all the fatty matter gone. Substance of muscles atrophied; cellular tissue surrounding seat of ulceration or necrosis, infiltrated with a serous or lardaceous deposit. The nerves traversing the infiltrated tissue, and those deeper seated excessively swollen, their sheaths filled with a firm albuminous matter in which the ultimate nervous filaments are imbedded; alterations precisely the same as those found in the tuberculous form of the disease, and supposed to be the result of inflammation of the nerves. The axillary and inguinal glands are, at the same time, often much enlarged. The lesions of the nervous centres, which are present in most cases, are chiefly congestion of the posterior or dorsal veins of spinal marrow, effusion of an albuminous serum within arachnoid membrane and the dura mater; adhesion of arachnoid membrane to pia mater; consolidation or hardening of substance of spinal cord at part affected. Cord usually somewhat contracted in size; so atrophied, sometimes, as not to be larger in diameter than a quill. The cineritious substance has acquired a dirty yellow colour, resembling a good deal the medullary substance. The roots of the nerves within the spinal canal invested with albuminous exudation. Sometimes the axillary and ischiatic plexuses, and the principal nerves issuing from them, are visibly atrophied. The above changes are always most conspicuous in the cervical and lumbar portions of the cord. Within the cranial cavity the same changes occur as in the spinal, but in a far less decided or advanced degree. Whenever well-marked facial anæsthesia has been present, the Casserian ganglion has been found the seat of some change. The most marked morbid change in the condition of the blood of leprous patients is an excessive amount of albumen and fibrin. The same sanguineous dyscrasia is found in both forms of leprous disease, the tuberculous and anæsthetic. D. F. C.

ART. XXI.—*On the Physiological Action of the Calabar Bean* (*Physostigma Venenosum, Balfour*). By THOMAS R. FRASER, M. D., Assistant to the Professor of Materia Medica in the University of Edinburgh. From the Transactions of the Royal Society of Edinburgh. Vol. XXIV. Quarto. pp. 73. Edinburgh, 1867.

THE Calabar Bean, though known as a judicial poison of the negroes of the west coast of Africa, did not attract attention on the part of the medical pub-